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| 09/554,132 | 05/09/2000 | GUNNAR WAHLSTEN | 1314 | 8276 |

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ALFRED J MANGELS
4729 CORNELL ROAD
CINCINNATI, OH 45241-2433

EXAMINER

HA, DAC V

ART UNIT PAPER NUMBER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/554,132
Filing Date: May 09, 2000
Appellant(s): WAHLSTEN, GUNNAR

Alfred J. Mangels (Reg. No. 22,605)
For Appellant

EXAMINER'S ANSWER

MAILED

DEC 14 2006

GROUP 2600

This is in response to the appeal brief filed on 09/25/06 appealing from the Office action mailed on 11/25/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| | | |
|-----------|------------------|---------|
| 4,852,122 | Nelson et al. | 7-1989 |
| 5,754,606 | Matsuyama et al. | 05-1998 |

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| | | |
|-----------|---------------|---------|
| 5,949,796 | Kumar | 09-1999 |
| 5,742,641 | Dingsor | 04-1998 |
| 6,563,896 | Nomura et al. | 05-2003 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 5, 6, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Matsuyama and Kumar.

Claims 3, 4, 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Matsuyama and Kumar as applied to claims 1, 5 above, and further in view of Dingsor and Nomura.

(10) Response to Argument

Regarding the Nelson et al. reference (hereafter Nelson), paragraphs 1 and 2 on page 13 and paragraph 1 on page 14, applicant has argued: "The Nelson et al. reference that was cited and relied upon as the principal reference discloses a different data transmission system ... it is not pertinent to the enablement of the desired rapid transmission of digital information".

It is true that Nelson uses RF for signal transmission from the transmitter to the receiver. However, the digital information is what Nelson is transmitting. This is evidenced by the nature of the digital information from the source (a data terminal, which could also be a computer; see Nelson, col. 2, lines 19-21 and the Final Office action dated 11/25/05, pages 3-4). It is also true, as indicated in the Final Office action dated 11/25/05, that Nelson does not use "digital audio broadcast" (DAB), however, this

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is why the Kumar reference is incorporated. In fact, Kumar discloses that in a DAB system, the representation of the digital information is emitted over the air using RF signals (col. 1, lines 46-66). And the goal of DAB is to provide a robust method for transmission of high-quality digital data. In Nelson, the digital data from the computer is to be transmitted. Therefore, a person of ordinary skill in the art would have looked to Kumar for the use of DAB to incorporate such technique into Nelson for improving, at least, the quality of the signal transmission.

Regarding to the Matsuyama et al. reference (hereafter Matsuyama), paragraph 2, page 14, applicant has argued "The Matsuyama et al. reference ... that is solved by the present invention". As indicated also in the Final Office action dated 11/25/05, page 4, Nelson discloses a clock from clock (Fig. 2, element 36) and a phase locked loop (Fig. 3, element 62) for outputting and inputting data, respectively. The Matsuyama is incorporate to show evidence that conventionally, a clock could originate from an oscillator.

Regarding the Kumar reference, paragraph 1 of page 15, applicant has argued "The Kumar reference ... thus no link between the Kumar reference and either of the Nelson et al. or Matsuyama et al. references." It is agreed that in Kumar, digital information is continuously transmitted and continuously received, however, this continuation happens between the transmitter antenna and the receiver antenna in the system of Kumar. Further, it is the idea of utilization of DAB for improving the transmission signal quality is what one would have wanted to incorporated into Nelson. On the other hand, the digital information is intermittently transmitted and received from

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and to the computer is already taught by Nelson (see the Final Office action dated 11/25/05, page 3), and this nature of information transmission is also admitted by applicant on page 11 of the Appeal Brief filed on 09/25/06.

Regarding the combination of Nelson et al., Matsuyama et al., and Kumar, page 16, paragraph 1, applicant has argued "The examiner concluded ... audio broadcast standard." However, it is believed that Nelson discloses digital information (from computer) is transmitted over the air using RF signal. Also, Nelson would be capable to be used in DAB since Kumar specifically indicates that DAB also transmits RF signal.

Still regarding the combination of Nelson et al., Matsuyama et al., and Kumar, page 16, paragraph 2, applicant has argued "Nelson et al. use only ... is very high." As stated above, to improve the signal transmission quality in Nelson, one would have looked to Kumar.

Further, page 17, paragraph 3 to page 18, paragraph 3, applicant has argued "To accommodate the data ... as the memories in the claimed invention." It is, however, believed that in Nelson, communication between computer (Fig. 2, element 36) and buffer (Fig. 2, element 34) is intermittent by nature. From the buffer on to the at least at the receiver antenna (Fig. 1, element 16), the signal is "substantially continuous data". Moreover, if Nelson contemplated DAB system, modulation and demodulation would still be needed as evidence in Kumar, where modulation (Fig. 5, element 83; col. 37, lines 19-23) and demodulation (Fig. 9, elements 213, 215; col. 58, lines 50-53). Also, it is believed that Nelson meets the claimed memories in the claimed invention and the

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reason why the oscillator should operate at substantially the same frequency is indicated previously in the Final Office action dated 11/25/05, page 4.

On page 18, paragraph 3 and page 19, paragraph 1-2, applicant has argued "On page 3 of the final rejection ... why the claimed would be obvious". However, it is believed that the differences between the claimed invention and the primary reference, Nelson, are met by Matsuyama and Kumar (for claims 1 and 5), as indicated previously and also in the coming section.

Page 19, paragraph 3 to page 23, paragraph 1, applicant has argued "In the Nelson et al. arrangement ... not obvious from the teaching of the references relied upon". However, it is believed that the deficiencies in Nelson are met by Matsuyama and Kumar, as indicated in the Final Office action dated 11/25/05 and above. To further appreciate how Matsuyama and Kumar would and could be combined with Nelson, consider claim 1 as follows.

Claim 1 has four main sections. The first section is the communication between the computer and the RAM (in the adaptation circuit). This communication is intermittent by nature. It is believed that Nelson meets the requirement for this section by the nature communication of the computer (data terminal element 12 of Fig. 1) and the buffer (element 34 of Figure 2).

The second section is the RAM itself. This section is believed to be where the intermittent nature of computer data transformed into a continuous form is effectuated. Nether the less, Nelson also meets the requirement for this second section by the use of the buffer (element 34 of Fig. 2).

The third section is the oscillator, which control the operation of the RAM. Nelson shows in Figure 2 that the operation of the buffer on the transmitter side, element 36, is controlled by a clock from element 36. Similarly, the buffer 58 in Fig. 3 on the receiver side is also controlled by a clock from element 66. As stated before, a person of ordinary skill in the art would have realized that clock signal could have been easily generated from an oscillator. Further, Nelson also indicated that clock synchronization should be maintained (col. 4, lines 59-60). That is the clock used at the transmitter and that at the receiver should be maintained in synchronization. A person of ordinary skill in the art would have easily realized that if an oscillator is used for generating the clock, the oscillator on the transmitter side and that on the receiver side would have to be operated at substantial same frequency in order to keep the clock in the transmitter and that in the receiver in synchronization. The Matsuyama is incorporated the is merely a demonstration and to show the support of the fact that a clock signal can be easily generated from an oscillator, as would known by one skilled in the art.

The fourth section is the communication between the transmitter and the receiver. That is the wireless transmission of the signal from the transmitter to the receiver using DAB, as claimed. In Nelson, however, the communication between the transmitter and the receiver is also accomplished by wireless (Fig. 1; Abstract; col. 1, lines 7-8). The only difference between Nelson and that of the claimed invention is that Nelson does not show the use of DAB. As indicated before, Kumar discloses that in a DAB system, the representation of the digital information is emitted over the air using

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RF signals (col. 1, lines 46-66). And the goal of DAB is to provide a robust method for transmission of high-quality digital data. In Nelson, the digital data from the computer is to be transmitted. Therefore, a person of ordinary skill in the art would have looked to Kumar for the use of DAB to incorporate such technique into Nelson for improving, at least, the quality of the signal transmission. Further, if that is the case, it would have been combinable. For example, the digital information from the buffer 34 in Nelson, after being processed through a plurality of elements (i.e. modulation, optional coding, etc.) in the transmitter chain, it would sent to the interleaver 43 of Fig. 4 of Kumar, and thereon for transmission to the receiver using DAB (Kumar, col. 32, line 35; col. 39, lines 50-59).

Page 23, paragraph 2, applicant has argued "Dependent claims 2 and 6 ... to combine them". It is believed that the issue raised here regarding claims 2 and 6 has been met in the explanation above.

Page 23, paragraph 3 to page 24, paragraph 4, applicant has argued "Regarding the rejection ... those dependent claims". As stated in the Final Office action dated 11/25/05, the use of code orthogonal frequency division multiplex" would have been a preferred modulation in DAB. The support could be found in, for example, Kumar col. 17, lines 40-60; col. 20, lines 24-27; col. 21, lines 7-15; col. 23, lines 40-60; col.27, line 1 to col. 28, line 27.

Regarding the Dingsor reference, page 25, paragraph 2, applicant has argued "The Dingsor reference ... claims 3, 4, 7 and 8 depend." As indicated in the Final Office action dated 11/25/05, the Dingsor is incorporated to show the use of software (i.e.

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DSP), which would have been desired since it would have provided more flexible to the system.

Regarding the Nomura et al. reference on page 25 to page 26, similar analogy to that of the Dingsor above is applied.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Dac V. Ha

Primary Examiner

Conferees:



**DAC HA
PRIMARY EXAMINER**

Chieh Fan


SPE - AU 2611



**CHIEH M. FAN
SUPERVISORY PATENT EXAMINER**

Jay Patel

SPE - AU 2611



**JAY K. PATEL
SUPERVISORY PATENT EXAMINER**